

CLAIMS

1. Electronic instrument worn on the wrist including a case (2) a least one part of which (4) is electrically conductive and in which are housed an electronic module (6) including a printed circuit board (60) and an electric power source (10) for powering said electronic module, said instrument further including an antenna (20) provided with a ground plane (22), said printed circuit board (60) having, at its periphery, a mechanical contact zone with said electrically conductive part (4) of the case (2),
- characterised in that said printed circuit board (60) includes a conductive path (65) extending at the periphery of said printed circuit board, over said mechanical contact zone, and establishing an electric contact, on the one hand, with said electrically conductive part (4) of the case (2) and, on the other hand, with said ground plane (22) so as to enlarge the ground plane of said antenna (20) in directions extending substantially in the extension of said ground plane (22).
2. Electronic instrument according to claim 1, characterised in that said antenna (20) is a micro-strip antenna including a radiating element (21) arranged substantially parallel to said ground plane (22).
3. Electronic instrument according to claim 1, characterised in that said antenna (20) is electrically connected to a top face of said printed circuit board (60), said top face being arranged on the side of a display device (5) of the electronic instrument.
4. Electronic instrument according to any of claims 1 to 3, characterised in that it includes an electrically conductive strip (45) made of compressible material that is inserted, on said mechanical contact zone, between said electrically conductive part (4) of the case (2) and said conductive path (65).
5. Electronic instrument according to claim 4, characterised in that said electrically conductive strip (45) is compressed between said conductive path (65) and a shoulder (40) arranged on the electrically conductive part (4) of the case (2).
6. Electronic instrument according to claim 5, characterised in that it further includes a support element (70, 75) exerting a pressure at several points of the periphery of said printed circuit board (60) where said electrically conductive strip (45) is compressed.
7. Electronic instrument according to claim 4, characterised in that said electrically conductive strip (45) is a conductive elastomer.
8. Electronic instrument according to claim 1, characterised in that said conductive path (65) is arranged on a first face of the printed circuit board (60) and is

electrically connected to other conductive paths of the electronic module (6) via metallised holes (80).

9. Electronic instrument according to claim 1, characterised in that said electrically conductive part (4) of the case (2) is electrically connected to a pole of  
5 determined electric potential of the electric power source (10), said electrically conductive part (4) of the case (2) being used to bring said determined electric potential to said electronic module (6) via said conductive path (65).

10. Electronic instrument according to claim 3, characterised in that said electrically conductive part (4) of the case (2) is electrically connected to a pole of  
10 determined electric potential of the electric power source (10), said electrically conductive part (4) of the case (2) being used to bring said determined electric potential to said electronic module (6) via said conductive path (65).

11. Electronic instrument according to claim 1, characterised in that said electrically conductive part (4) of the case (2) is brought to a determined electric  
15 potential via said conductive path (65).

12. Electronic instrument according to claim 3, characterised in that said electrically conductive part (4) of the case (2) is brought to a determined electric potential via said conductive path (65).

13. Electronic instrument according to claim 1, characterised in that said  
20 conductive path (65) extends over substantially the entire periphery of the printed circuit board (60).

14. Electronic instrument according to claim 3, characterised in that said conductive path (65) extends over substantially the entire periphery of the printed circuit board (60).

25 15. Electronic instrument according to claim 1, characterised in that said conductive path (65) extends over at least a part of the periphery of the printed circuit board (60) located in proximity to said ground plane (22).

16. Electronic instrument according to claim 3, characterised in that said  
30 conductive path (65) extends over at least a part of the periphery of the printed circuit board (60) located in proximity to said ground plane (22).